



Business challenge

To boost the speed and agility of its development processes, Singapore Exchange Limited (SGX) wanted to take advantage of the latest advancements in cloud-based development platforms and containerization.

Transformation

As one of Asia's top multi-asset exchanges, SGX has to keep innovating and expanding its IT capabilities, including its approach to application development. With an IBM® Cloud™ Private solution, the company will transform its development methodology and speed application delivery while upholding its standards for security and stability.

Results

Adopts agile development
processes within a stable framework

Speeds time-to-market
with a pipeline for rapid DevOps delivery

Upholds security standards
with the on-premises private
cloud solution

Singapore Exchange Limited

Leading exchange transforms development and accelerates application delivery

Headquartered in the AAA-rated island city-state of Singapore, [SGX](#) is Asia's leading multi-asset exchange and a vertically-integrated business providing listing, trading, clearing, settlement, depository and data services. With approximately 40 percent of its listed companies and 80 percent of its listed bonds originating outside of Singapore, SGX is Asia's most international exchange. It employs more than 800 people and has offices in Beijing, Chicago, Hong Kong, London, Mumbai, New York, San Francisco, Shanghai and Tokyo.

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— Tan Tiew Hin, Head of Technology Shared Services and Business Operations, Singapore Exchange Limited



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Boosting speed while upholding security standards

As one of Asia's top multi-asset exchanges, SGX wants to continually enhance the digital experience for its customers, employees and business partners. "Today, every financial company aspires to be a technology company, and technology companies are always innovating and expanding their reach—technology has become an integral part of business strategy," says Tan Tiew Hin, SGX Head of Technology Shared Services and Business Operations.

With a robust trading engine at the heart of its operations, SGX develops dynamic applications and interfaces extending from this core. To enhance the speed and agility of its development processes, the company wanted to take advantage of the latest advancements in cloud-based development platforms and containerization.

"SGX was working in waterfall development environments," says Jaric Sng, IBM Cloud Architect. "As an enterprise, the company was interested in moving to one flexible, standardized development platform and using the latest open-source technologies to support faster time to value."

While transforming its development practices, SGX also had to uphold its rigorous security standards.

"We want to be quick in what we do, but we also need to ensure that we're providing a safe environment for our customers," says Tiew Hin. "We must uphold 'stability and security by design' in all our systems."

Deploying a flexible cloud-based foundation

SGX launched a Request for Proposal (RFP) process to evaluate cloud-based development solutions from trusted providers, including the IBM Cloud Private platform. During the evaluation, the company noted the IBM Cloud Private solution's flexible microservices architecture with built-in security capabilities.

"Many suppliers are riding the new wave of open-source technologies, but there's very little differentiation between their offerings," says Tiew Hin. "We were most impressed by the amount of thought IBM put into IBM Cloud Private and the features that differentiate it from competitive solutions. The other part of the decision was our longtime partnership. We feel comfortable going on this journey with IBM to build a new foundation and do things in a new way."

To fully demonstrate the platform's capabilities, IBM set up an IBM Cloud Private environment to provide SGX with a proof of concept (POC). An IBM Garage™ team conducted an intensive workshop, guiding the client through continuous integration

and delivery practices for building, packaging, testing and releasing applications more easily and rapidly with the IBM Cloud Private solution.

"IBM had the advantage of knowing the environment and also had great synergy with SGX," says Viola Yau, IBM Cloud Sales Manager.

"We completed the whole POC in two weeks, and these two weeks were critical. Our Garage team was on call and readily available to teach and advise throughout."

Tapping IBM Business Partner Dimension Data to provide managed services for the solution after implementation, SGX will first migrate back-end clearing house applications to the environment, followed by customer-facing trading applications. "IBM Cloud Private will soon be the key platform for all SGX applications," says Sng. "This standardized container-based approach will help make operations easier to manage."

Unifying and accelerating development operation

With the IBM Cloud Private solution in place, SGX is transforming its development operations and adopting agile methodology. "For years, we've been taking a traditional SDLC [software development life cycle] approach and now we're ready for agile development," says Tiew Hin. "We wanted to enable our

developers to work in a fast and easy way, without compromising security and stability. IBM Cloud Private gives us the framework we need."

Offering a unified development environment, the IBM Cloud Private platform brings the company's developers together and supports a pipeline for rapid DevOps delivery. "With IBM Cloud Private, we'll improve speed across our entire process with auto-scaling and ease of recovery," says Tiew Hin. "We'll give our developers more control and accelerate time to market."

The IBM Cloud Private solution delivers greater flexibility, but within the security parameters SGX requires. "IBM Cloud Private is basically providing a cloud for SGX's own internal use," says Sng. "The company can be agile, but it's an on-premises solution—the boundaries SGX needs are there."

Plus, the IBM Cloud Private solution is designed to help SGX development teams create applications aligned with industry security standards. "With IBM Cloud Private, IBM really offers a roadmap for developing solutions based on requirements for PCI [payment card industry] readiness and CIS [Center for Internet Security] benchmarks," says Sng. "Other providers require customers to add external tools to address security compliance."

Solution components

- IBM® Cloud™ Private
- IBM Garage™

Take the next step

To learn more about the IBM solutions featured in this story, please contact your IBM representative or IBM Business Partner.

IBM Business Partner background

Founded in 1983 and headquartered in Johannesburg, South Africa, IBM Business Partner [Dimension Data](#) is a global leader in designing, optimizing and managing today's evolving technology environments. With 28,000 people in 47 countries, the company brings the world's best technologies together with consulting, technical, support and fully managed services for its international client base. As a proud member of the NTT Group, Dimension Data helps organizations enable technology, operate their infrastructures and transform IT to deliver greater value.

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